



wwPDB X-ray Structure Validation Summary Report ⓘ

May 14, 2020 – 03:53 pm BST

PDB ID : 6S79
Title : Crystal structure of CARM1 in complex with inhibitor AA183
Authors : Gunnell, E.A.; Al-Noori, A.; Dowden, J.; Dreveny, I.
Deposited on : 2019-07-04
Resolution : 2.10 Å(reported)

This is a wwPDB X-ray Structure Validation Summary Report for a publicly released PDB entry.

We welcome your comments at validation@mail.wwpdb.org

A user guide is available at

<https://www.wwpdb.org/validation/2017/XrayValidationReportHelp>

with specific help available everywhere you see the ⓘ symbol.

The following versions of software and data (see [references ⓘ](#)) were used in the production of this report:

MolProbity : 4.02b-467
Mogul : 1.8.5 (274361), CSD as541be (2020)
Xtriage (Phenix) : 1.13
EDS : 2.11
buster-report : 1.1.7 (2018)
Percentile statistics : 20191225.v01 (using entries in the PDB archive December 25th 2019)
Refmac : 5.8.0158
CCP4 : 7.0.044 (Gargrove)
Ideal geometry (proteins) : Engh & Huber (2001)
Ideal geometry (DNA, RNA) : Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP) : 2.11

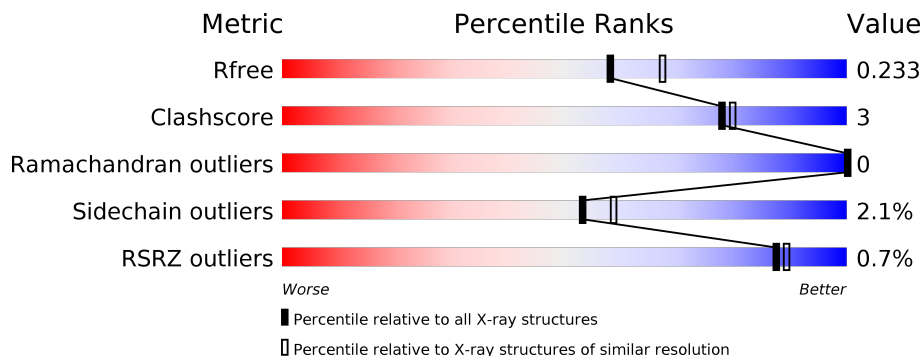
1 Overall quality at a glance

The following experimental techniques were used to determine the structure:

X-RAY DIFFRACTION

The reported resolution of this entry is 2.10 Å.

Percentile scores (ranging between 0-100) for global validation metrics of the entry are shown in the following graphic. The table shows the number of entries on which the scores are based.



Metric	Whole archive (#Entries)	Similar resolution (#Entries, resolution range(Å))
R_{free}	130704	5197 (2.10-2.10)
Clashscore	141614	5710 (2.10-2.10)
Ramachandran outliers	138981	5647 (2.10-2.10)
Sidechain outliers	138945	5648 (2.10-2.10)
RSRZ outliers	127900	5083 (2.10-2.10)

The table below summarises the geometric issues observed across the polymeric chains and their fit to the electron density. The red, orange, yellow and green segments on the lower bar indicate the fraction of residues that contain outliers for ≥ 3 , 2, 1 and 0 types of geometric quality criteria respectively. A grey segment represents the fraction of residues that are not modelled. The numeric value for each fraction is indicated below the corresponding segment, with a dot representing fractions $\leq 5\%$. The upper red bar (where present) indicates the fraction of residues that have poor fit to the electron density. The numeric value is given above the bar.

Mol	Chain	Length	Quality of chain
1	A	351	 82% 13% ...
1	B	351	 80% 15% ..
1	C	351	 79% 16% ..
1	D	351	 83% 13% ..

2 Entry composition i

There are 4 unique types of molecules in this entry. The entry contains 11521 atoms, of which 0 are hydrogens and 0 are deuteriums.

In the tables below, the ZeroOcc column contains the number of atoms modelled with zero occupancy, the AltConf column contains the number of residues with at least one atom in alternate conformation and the Trace column contains the number of residues modelled with at most 2 atoms.

- Molecule 1 is a protein called Histone-arginine methyltransferase CARM1.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	S			
1	A	342	2744	1772	453	505	14	0	0	0
1	B	342	2764	1785	455	510	14	0	2	0
1	C	342	2767	1785	458	510	14	0	3	0
1	D	342	2751	1777	455	505	14	0	1	0

There are 24 discrepancies between the modelled and reference sequences:

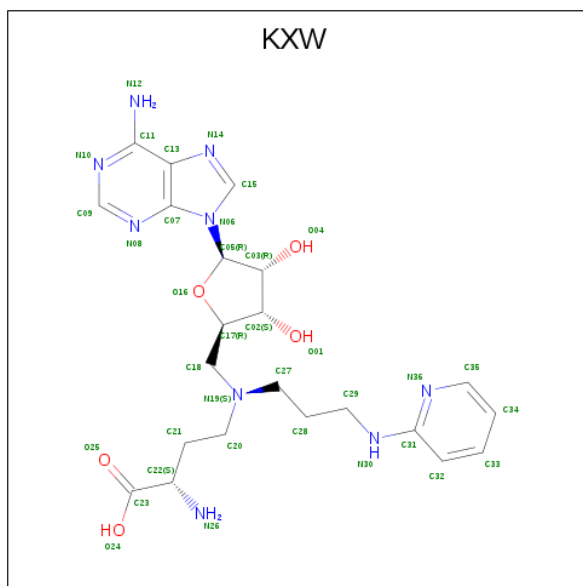
Chain	Residue	Modelled	Actual	Comment	Reference
A	480	HIS	-	expression tag	UNP Q86X55
A	481	HIS	-	expression tag	UNP Q86X55
A	482	HIS	-	expression tag	UNP Q86X55
A	483	HIS	-	expression tag	UNP Q86X55
A	484	HIS	-	expression tag	UNP Q86X55
A	485	HIS	-	expression tag	UNP Q86X55
B	480	HIS	-	expression tag	UNP Q86X55
B	481	HIS	-	expression tag	UNP Q86X55
B	482	HIS	-	expression tag	UNP Q86X55
B	483	HIS	-	expression tag	UNP Q86X55
B	484	HIS	-	expression tag	UNP Q86X55
B	485	HIS	-	expression tag	UNP Q86X55
C	480	HIS	-	expression tag	UNP Q86X55
C	481	HIS	-	expression tag	UNP Q86X55
C	482	HIS	-	expression tag	UNP Q86X55
C	483	HIS	-	expression tag	UNP Q86X55
C	484	HIS	-	expression tag	UNP Q86X55
C	485	HIS	-	expression tag	UNP Q86X55
D	480	HIS	-	expression tag	UNP Q86X55
D	481	HIS	-	expression tag	UNP Q86X55
D	482	HIS	-	expression tag	UNP Q86X55

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Chain	Residue	Modelled	Actual	Comment	Reference
D	483	HIS	-	expression tag	UNP Q86X55
D	484	HIS	-	expression tag	UNP Q86X55
D	485	HIS	-	expression tag	UNP Q86X55

- Molecule 2 is (2 {S})-4-[[[(2 {R},3 {S},4 {R},5 {R})-5-(6-aminopurin-9-yl)-3,4-bis(oxidanyl)oxolan-2-yl]methyl-[3-(pyridin-2-ylamino)propyl]amino]-2-azanyl-butanoic acid (three-letter code: KXW) (formula: C₂₂H₃₁N₉O₅) (labeled as "Ligand of Interest" by author).



Mol	Chain	Residues	Atoms				ZeroOcc	AltConf
			Total	C	N	O		
2	A	1	Total	C	N	O	0	0
			36	22	9	5		
2	B	1	Total	C	N	O	0	0
			36	22	9	5		
2	C	1	Total	C	N	O	0	1
			72	44	18	10		
2	D	1	Total	C	N	O	0	1
			72	44	18	10		

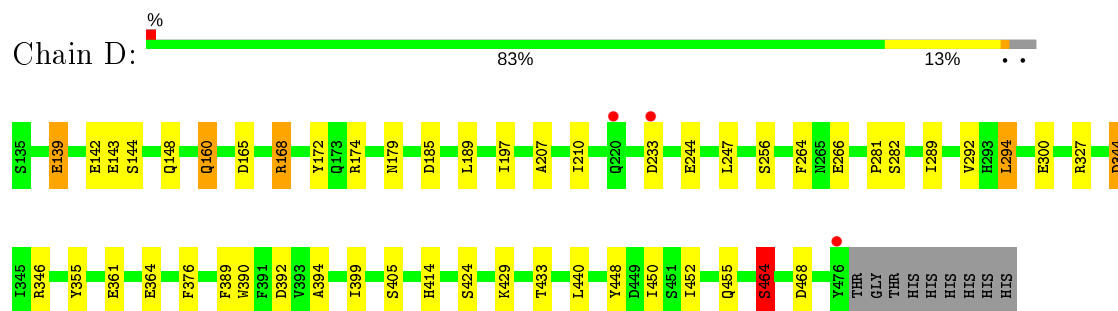
- Molecule 3 is GLYCEROL (three-letter code: GOL) (formula: C₃H₈O₃).



Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
3	B	1	Total	C O	0	0
			6	3 3		
3	C	1	Total	C O	0	0
			6	3 3		

- Molecule 4 is water.

Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
4	A	37	Total	O	0	0
			37	37		
4	B	79	Total	O	0	0
			79	79		
4	C	117	Total	O	0	0
			117	117		
4	D	34	Total	O	0	0
			34	34		



4 Data and refinement statistics

Property	Value	Source
Space group	P 21 21 2	Depositor
Cell constants a, b, c, α , β , γ	75.48Å 99.20Å 208.44Å 90.00° 90.00° 90.00°	Depositor
Resolution (Å)	71.85 – 2.10 208.44 – 2.10	Depositor EDS
% Data completeness (in resolution range)	99.9 (71.85-2.10) 100.0 (208.44-2.10)	Depositor EDS
R_{merge}	0.19	Depositor
R_{sym}	(Not available)	Depositor
$\langle I/\sigma(I) \rangle$ ¹	1.58 (at 2.10Å)	Xtrriage
Refinement program	PHENIX	Depositor
R, R_{free}	0.199 , 0.231 0.202 , 0.233	Depositor DCC
R_{free} test set	4547 reflections (4.94%)	wwPDB-VP
Wilson B-factor (Å ²)	32.3	Xtrriage
Anisotropy	0.211	Xtrriage
Bulk solvent k_{sol} (e/Å ³), B_{sol} (Å ²)	0.35 , 42.8	EDS
L-test for twinning ²	$\langle L \rangle = 0.50$, $\langle L^2 \rangle = 0.33$	Xtrriage
Estimated twinning fraction	No twinning to report.	Xtrriage
F_o, F_c correlation	0.96	EDS
Total number of atoms	11521	wwPDB-VP
Average B, all atoms (Å ²)	45.0	wwPDB-VP

Xtrriage's analysis on translational NCS is as follows: *The analyses of the Patterson function reveals a significant off-origin peak that is 35.43 % of the origin peak, indicating pseudo-translational symmetry. The chance of finding a peak of this or larger height randomly in a structure without pseudo-translational symmetry is equal to 5.8420e-04. The detected translational NCS is most likely also responsible for the elevated intensity ratio.*

¹ Intensities estimated from amplitudes.

² Theoretical values of $\langle |L| \rangle$, $\langle L^2 \rangle$ for acentric reflections are 0.5, 0.333 respectively for untwinned datasets, and 0.375, 0.2 for perfectly twinned datasets.

5 Model quality i

5.1 Standard geometry i

Bond lengths and bond angles in the following residue types are not validated in this section: GOL, KXW

The Z score for a bond length (or angle) is the number of standard deviations the observed value is removed from the expected value. A bond length (or angle) with $|Z| > 5$ is considered an outlier worth inspection. RMSZ is the root-mean-square of all Z scores of the bond lengths (or angles).

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	# Z >5	RMSZ	# Z >5
1	A	1.45	22/2814 (0.8%)	1.03	11/3813 (0.3%)
1	B	1.69	42/2834 (1.5%)	1.15	17/3839 (0.4%)
1	C	1.72	42/2841 (1.5%)	1.24	23/3850 (0.6%)
1	D	1.43	22/2825 (0.8%)	1.06	9/3828 (0.2%)
All	All	1.58	128/11314 (1.1%)	1.12	60/15330 (0.4%)

Chiral center outliers are detected by calculating the chiral volume of a chiral center and verifying if the center is modelled as a planar moiety or with the opposite hand. A planarity outlier is detected by checking planarity of atoms in a peptide group, atoms in a mainchain group or atoms of a sidechain that are expected to be planar.

Mol	Chain	#Chirality outliers	#Planarity outliers
1	D	0	2

The worst 5 of 128 bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
1	B	464	SER	CB-OG	-12.83	1.25	1.42
1	B	142	GLU	CD-OE1	12.58	1.39	1.25
1	B	266	GLU	CD-OE1	12.23	1.39	1.25
1	D	139	GLU	CD-OE2	10.65	1.37	1.25
1	C	195	SER	CB-OG	9.49	1.54	1.42

The worst 5 of 60 bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	C	294	LEU	CA-CB-CG	11.14	140.93	115.30
1	C	174	ARG	NE-CZ-NH1	10.62	125.61	120.30
1	B	300	GLU	OE1-CD-OE2	-10.12	111.15	123.30
1	D	233	ASP	CB-CG-OD2	9.83	127.15	118.30

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	C	174	ARG	NE-CZ-NH2	-9.45	115.57	120.30

There are no chirality outliers.

All (2) planarity outliers are listed below:

Mol	Chain	Res	Type	Group
1	D	160	GLN	Sidechain
1	D	464	SER	Peptide

5.2 Too-close contacts [i](#)

In the following table, the Non-H and H(model) columns list the number of non-hydrogen atoms and hydrogen atoms in the chain respectively. The H(added) column lists the number of hydrogen atoms added and optimized by MolProbity. The Clashes column lists the number of clashes within the asymmetric unit, whereas Symm-Clashes lists symmetry related clashes.

Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
1	A	2744	0	2692	22	0
1	B	2764	0	2704	9	0
1	C	2767	0	2707	18	0
1	D	2751	0	2699	16	0
2	A	36	0	0	1	0
2	B	36	0	0	0	0
2	C	72	0	0	3	0
2	D	72	0	0	2	0
3	B	6	0	8	0	0
3	C	6	0	8	0	0
4	A	37	0	0	0	0
4	B	79	0	0	1	0
4	C	117	0	0	1	0
4	D	34	0	0	1	0
All	All	11521	0	10818	63	0

The all-atom clashscore is defined as the number of clashes found per 1000 atoms (including hydrogen atoms). The all-atom clashscore for this structure is 3.

The worst 5 of 63 close contacts within the same asymmetric unit are listed below, sorted by their clash magnitude.

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:304:MET:SD	1:C:304:MET:CE	2.03	1.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:414[A]:HIS:NE2	4:D:601:HOH:O	1.97	0.94
1:C:468[B]:ASP:OD1	4:C:601:HOH:O	1.88	0.91
1:A:262:MET:HG3	1:A:418:VAL:HG21	1.54	0.89
1:C:165:ASP:OD2	1:C:414[A]:HIS:ND1	2.12	0.83

There are no symmetry-related clashes.

5.3 Torsion angles [i](#)

5.3.1 Protein backbone [i](#)

In the following table, the Percentiles column shows the percent Ramachandran outliers of the chain as a percentile score with respect to all X-ray entries followed by that with respect to entries of similar resolution.

The Analysed column shows the number of residues for which the backbone conformation was analysed, and the total number of residues.

Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
1	A	340/351 (97%)	329 (97%)	11 (3%)	0	100	100
1	B	341/351 (97%)	334 (98%)	7 (2%)	0	100	100
1	C	343/351 (98%)	333 (97%)	10 (3%)	0	100	100
1	D	341/351 (97%)	332 (97%)	9 (3%)	0	100	100
All	All	1365/1404 (97%)	1328 (97%)	37 (3%)	0	100	100

There are no Ramachandran outliers to report.

5.3.2 Protein sidechains [i](#)

In the following table, the Percentiles column shows the percent sidechain outliers of the chain as a percentile score with respect to all X-ray entries followed by that with respect to entries of similar resolution.

The Analysed column shows the number of residues for which the sidechain conformation was analysed, and the total number of residues.

Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
1	A	298/306 (97%)	292 (98%)	6 (2%)	55	60
1	B	300/306 (98%)	294 (98%)	6 (2%)	55	60

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
1	C	301/306 (98%)	293 (97%)	8 (3%)	44	48
1	D	299/306 (98%)	293 (98%)	6 (2%)	55	60
All	All	1198/1224 (98%)	1172 (98%)	26 (2%)	53	57

5 of 26 residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	B	424	SER
1	C	209	LYS
1	D	294	LEU
1	C	143	GLU
1	C	168	ARG

Some sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (1) such sidechains are listed below:

Mol	Chain	Res	Type
1	B	148	GLN

5.3.3 RNA [i](#)

There are no RNA molecules in this entry.

5.4 Non-standard residues in protein, DNA, RNA chains [i](#)

There are no non-standard protein/DNA/RNA residues in this entry.

5.5 Carbohydrates [i](#)

There are no carbohydrates in this entry.

5.6 Ligand geometry [i](#)

8 ligands are modelled in this entry.

In the following table, the Counts columns list the number of bonds (or angles) for which Mogul statistics could be retrieved, the number of bonds (or angles) that are observed in the model and the number of bonds (or angles) that are defined in the Chemical Component Dictionary. The Link column lists molecule types, if any, to which the group is linked. The Z score for a bond

length (or angle) is the number of standard deviations the observed value is removed from the expected value. A bond length (or angle) with $|Z| > 2$ is considered an outlier worth inspection. RMSZ is the root-mean-square of all Z scores of the bond lengths (or angles).

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	# Z > 2	Counts	RMSZ	# Z > 2
2	KXW	C	501[B]	-	32,39,39	3.54	11 (34%)	33,54,54	1.49	3 (9%)
2	KXW	A	501	-	32,39,39	3.48	8 (25%)	33,54,54	1.61	7 (21%)
2	KXW	D	501[B]	-	32,39,39	3.50	9 (28%)	33,54,54	1.46	6 (18%)
3	GOL	B	502	-	5,5,5	0.54	0	5,5,5	1.62	1 (20%)
2	KXW	D	501[A]	-	32,39,39	3.49	9 (28%)	33,54,54	1.51	6 (18%)
3	GOL	C	502	-	5,5,5	0.51	0	5,5,5	0.45	0
2	KXW	B	501	-	32,39,39	3.53	11 (34%)	33,54,54	1.62	6 (18%)
2	KXW	C	501[A]	-	32,39,39	3.51	11 (34%)	33,54,54	1.50	4 (12%)

In the following table, the Chirals column lists the number of chiral outliers, the number of chiral centers analysed, the number of these observed in the model and the number defined in the Chemical Component Dictionary. Similar counts are reported in the Torsion and Rings columns. '-' means no outliers of that kind were identified.

Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
2	KXW	C	501[B]	-	-	9/16/40/40	0/4/4/4
2	KXW	A	501	-	-	6/16/40/40	0/4/4/4
2	KXW	D	501[B]	-	-	6/16/40/40	0/4/4/4
3	GOL	B	502	-	-	2/4/4/4	-
2	KXW	D	501[A]	-	-	5/16/40/40	0/4/4/4
3	GOL	C	502	-	-	3/4/4/4	-
2	KXW	B	501	-	-	5/16/40/40	0/4/4/4
2	KXW	C	501[A]	-	-	9/16/40/40	0/4/4/4

The worst 5 of 59 bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
2	B	501	KXW	O16-C05	-10.67	1.26	1.41
2	A	501	KXW	O16-C05	-10.46	1.26	1.41
2	C	501[A]	KXW	O16-C05	-10.33	1.26	1.41
2	A	501	KXW	C03-C02	-10.29	1.25	1.53
2	B	501	KXW	C03-C02	-10.21	1.25	1.53

The worst 5 of 33 bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed($^{\circ}$)	Ideal($^{\circ}$)
2	D	501[A]	KXW	N08-C09-N10	-4.48	121.68	128.68
2	D	501[B]	KXW	N08-C09-N10	-4.46	121.71	128.68
2	B	501	KXW	N08-C09-N10	-4.44	121.74	128.68
2	A	501	KXW	N08-C09-N10	-4.32	121.92	128.68
2	C	501[B]	KXW	N08-C09-N10	-4.31	121.94	128.68

There are no chirality outliers.

5 of 45 torsion outliers are listed below:

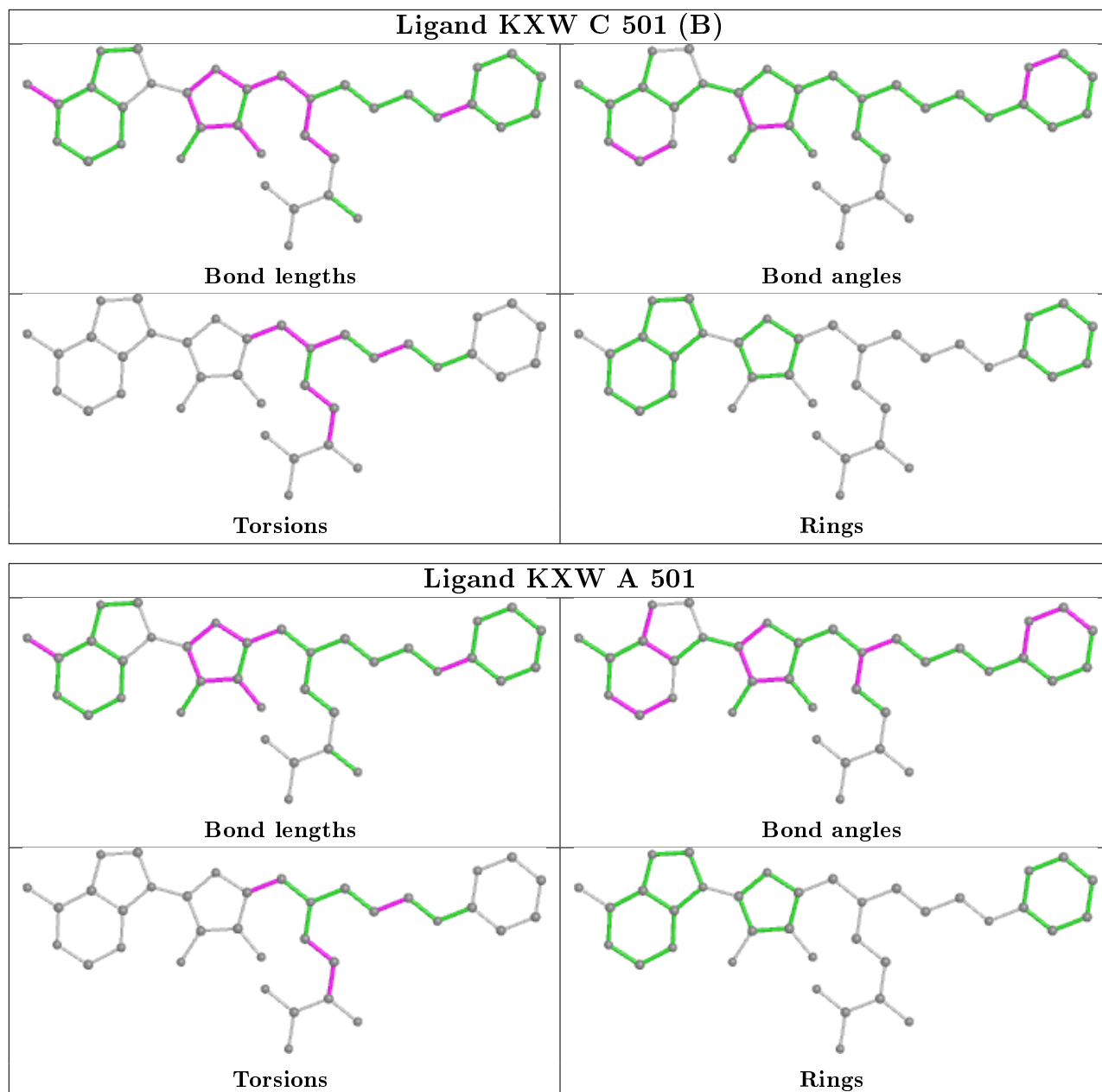
Mol	Chain	Res	Type	Atoms
2	C	501[B]	KXW	C02-C17-C18-N19
2	C	501[B]	KXW	O16-C17-C18-N19
2	C	501[B]	KXW	N19-C20-C21-C22
2	C	501[B]	KXW	C20-C21-C22-C23
2	C	501[B]	KXW	C20-C21-C22-N26

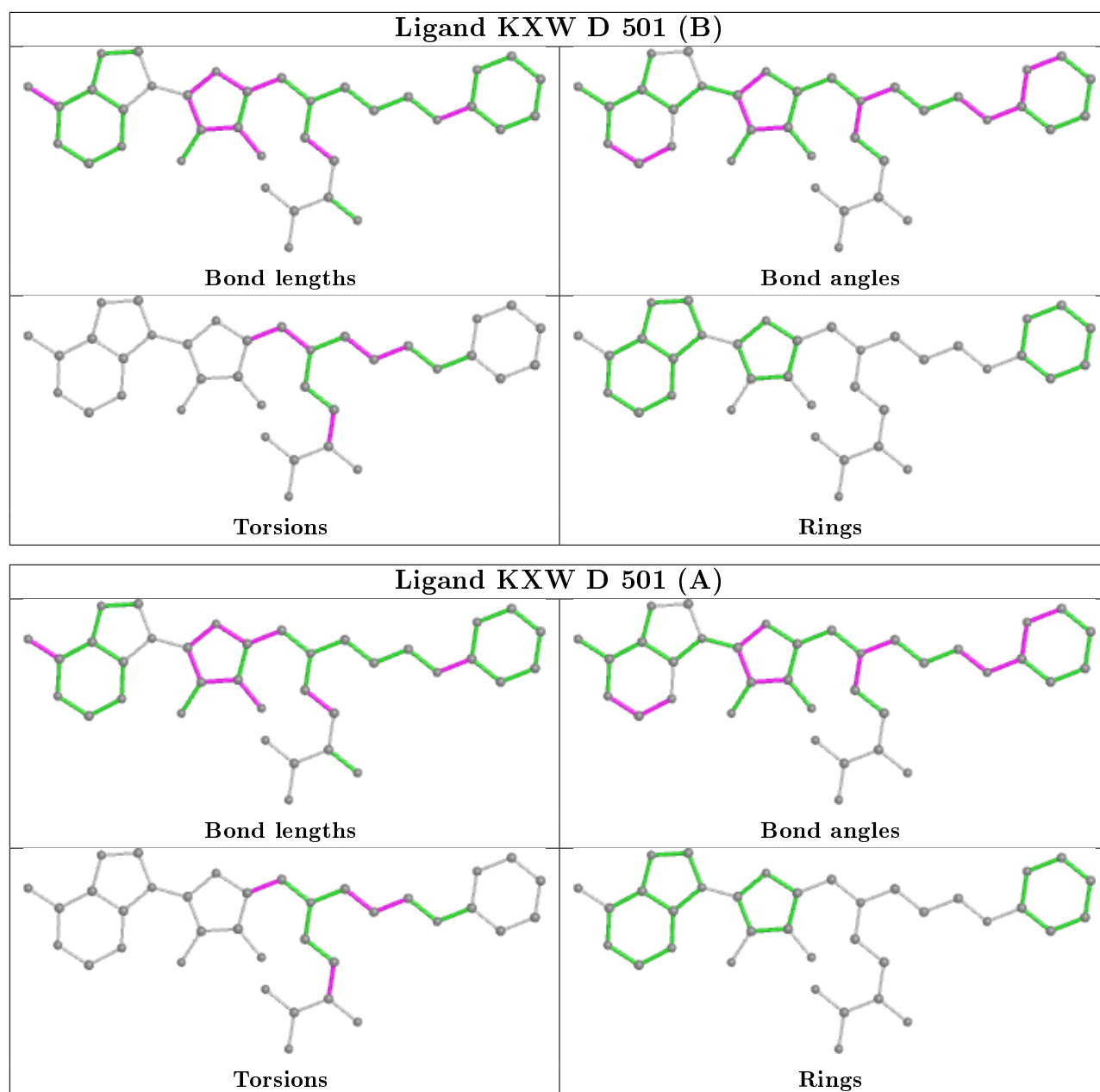
There are no ring outliers.

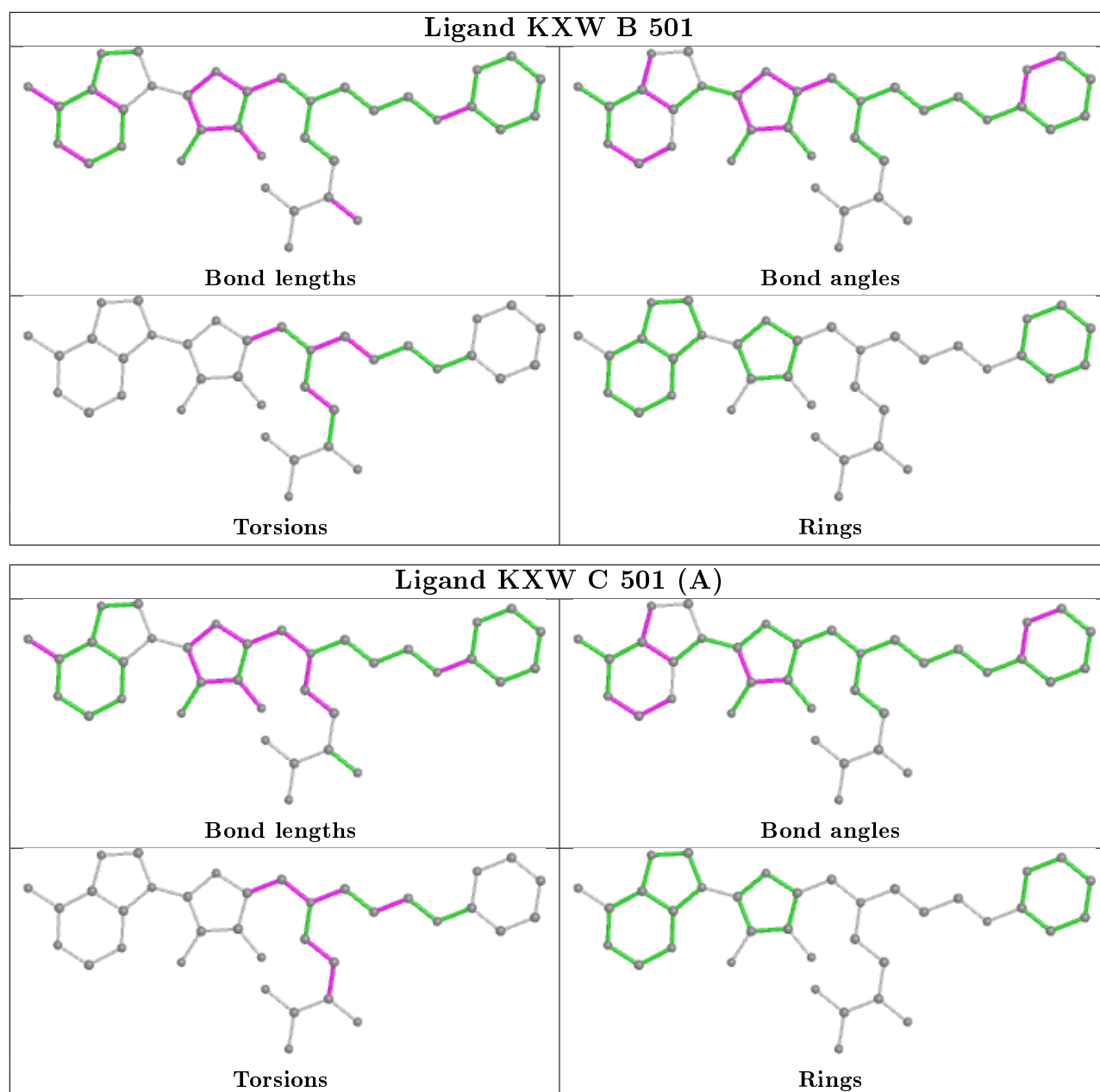
5 monomers are involved in 6 short contacts:

Mol	Chain	Res	Type	Clashes	Symm-Clashes
2	C	501[B]	KXW	2	0
2	A	501	KXW	1	0
2	D	501[B]	KXW	1	0
2	D	501[A]	KXW	1	0
2	C	501[A]	KXW	1	0

The following is a two-dimensional graphical depiction of Mogul quality analysis of bond lengths, bond angles, torsion angles, and ring geometry for all instances of the Ligand of Interest. In addition, ligands with molecular weight > 250 and outliers as shown on the validation Tables will also be included. For torsion angles, if less than 5% of the Mogul distribution of torsion angles is within 10 degrees of the torsion angle in question, then that torsion angle is considered an outlier. Any bond that is central to one or more torsion angles identified as an outlier by Mogul will be highlighted in the graph. For rings, the root-mean-square deviation (RMSD) between the ring in question and similar rings identified by Mogul is calculated over all ring torsion angles. If the average RMSD is greater than 60 degrees and the minimal RMSD between the ring in question and any Mogul-identified rings is also greater than 60 degrees, then that ring is considered an outlier. The outliers are highlighted in purple. The color gray indicates Mogul did not find sufficient equivalents in the CSD to analyse the geometry.







5.7 Other polymers [i](#)

There are no such residues in this entry.

5.8 Polymer linkage issues [i](#)

There are no chain breaks in this entry.

6 Fit of model and data [i](#)

6.1 Protein, DNA and RNA chains [i](#)

In the following table, the column labelled '#RSRZ > 2' contains the number (and percentage) of RSRZ outliers, followed by percent RSRZ outliers for the chain as percentile scores relative to all X-ray entries and entries of similar resolution. The OWAB column contains the minimum, median, 95th percentile and maximum values of the occupancy-weighted average B-factor per residue. The column labelled 'Q < 0.9' lists the number of (and percentage) of residues with an average occupancy less than 0.9.

Mol	Chain	Analysed	<RSRZ>	#RSRZ>2	OWAB(Å ²)	Q<0.9
1	A	342/351 (97%)	-0.22	4 (1%) 79 82	40, 51, 68, 99	0
1	B	342/351 (97%)	-0.37	1 (0%) 94 94	21, 37, 53, 64	0
1	C	342/351 (97%)	-0.38	1 (0%) 94 94	20, 33, 50, 68	0
1	D	342/351 (97%)	-0.17	3 (0%) 84 86	39, 53, 74, 91	0
All	All	1368/1404 (97%)	-0.29	9 (0%) 87 89	20, 45, 66, 99	0

The worst 5 of 9 RSRZ outliers are listed below:

Mol	Chain	Res	Type	RSRZ
1	A	476	TYR	3.6
1	D	233	ASP	2.8
1	A	139	GLU	2.8
1	A	166	TYR	2.7
1	B	476[A]	TYR	2.5

6.2 Non-standard residues in protein, DNA, RNA chains [i](#)

There are no non-standard protein/DNA/RNA residues in this entry.

6.3 Carbohydrates [i](#)

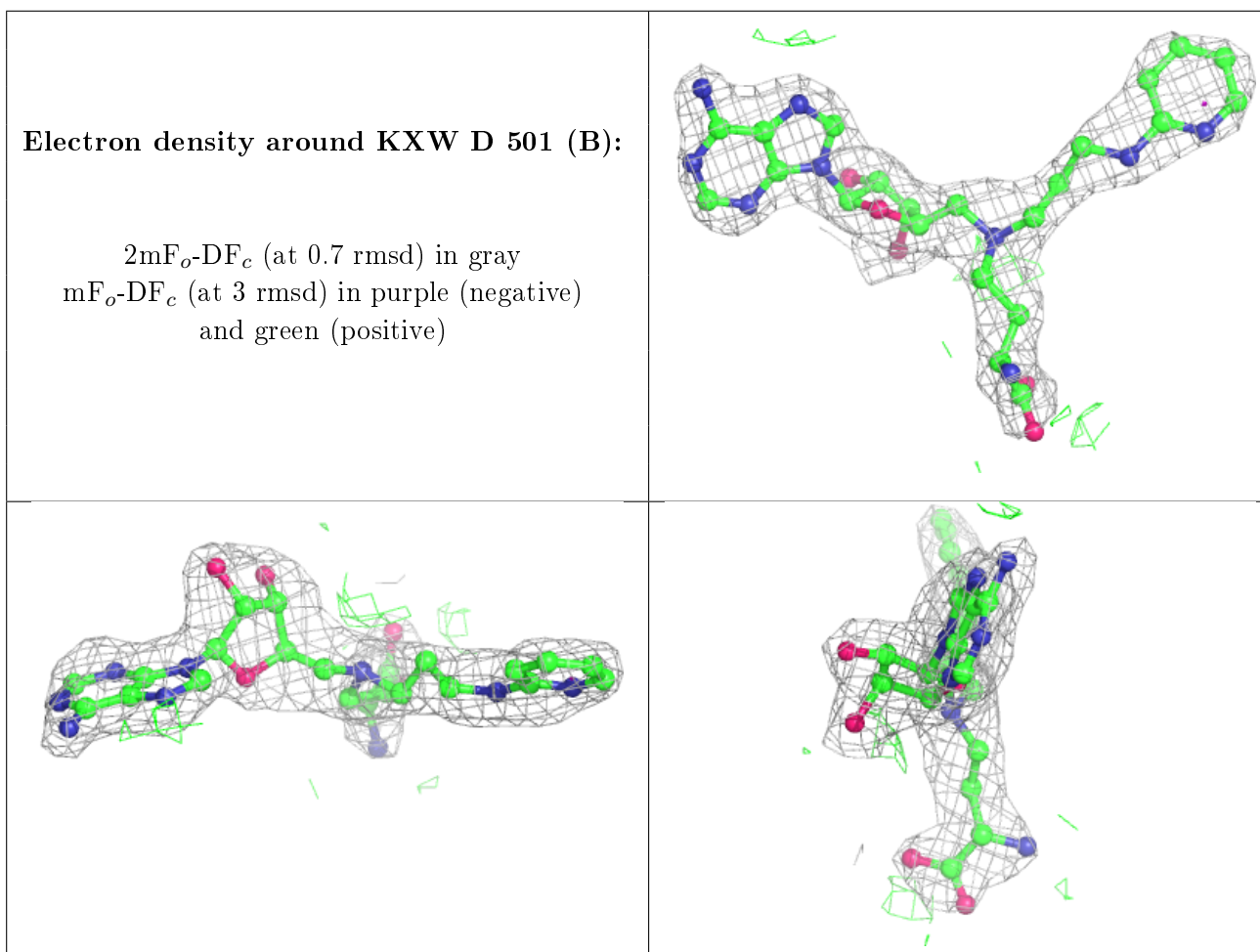
There are no carbohydrates in this entry.

6.4 Ligands [i](#)

In the following table, the Atoms column lists the number of modelled atoms in the group and the number defined in the chemical component dictionary. The B-factors column lists the minimum, median, 95th percentile and maximum values of B factors of atoms in the group. The column labelled 'Q < 0.9' lists the number of atoms with occupancy less than 0.9.

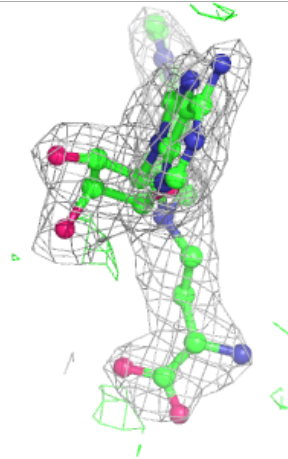
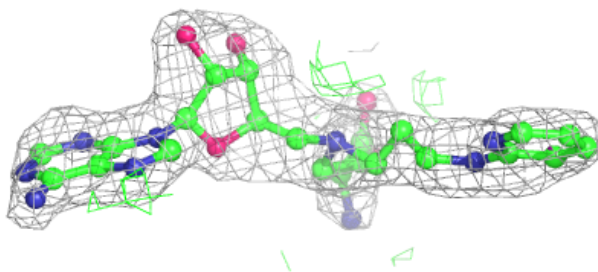
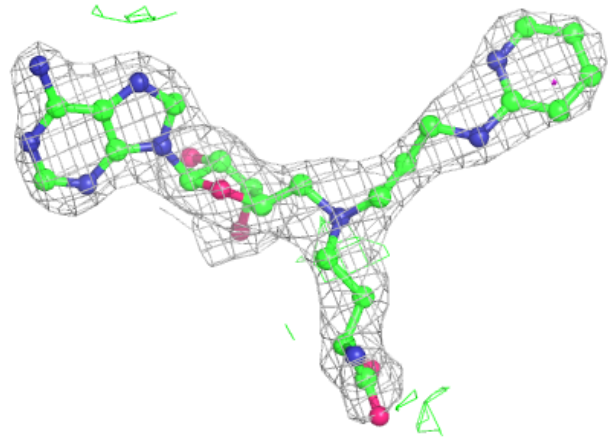
Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(\AA^2)	Q<0.9
3	GOL	C	502	6/6	0.83	0.12	59,64,76,76	0
2	KXW	D	501[B]	36/36	0.92	0.14	44,61,99,104	36
2	KXW	D	501[A]	36/36	0.92	0.14	44,61,99,104	36
2	KXW	A	501	36/36	0.92	0.14	44,53,70,72	0
3	GOL	B	502	6/6	0.93	0.15	58,63,63,66	0
2	KXW	C	501[B]	36/36	0.95	0.11	25,39,74,87	36
2	KXW	B	501	36/36	0.95	0.11	26,33,46,54	0
2	KXW	C	501[A]	36/36	0.95	0.11	25,39,74,87	36

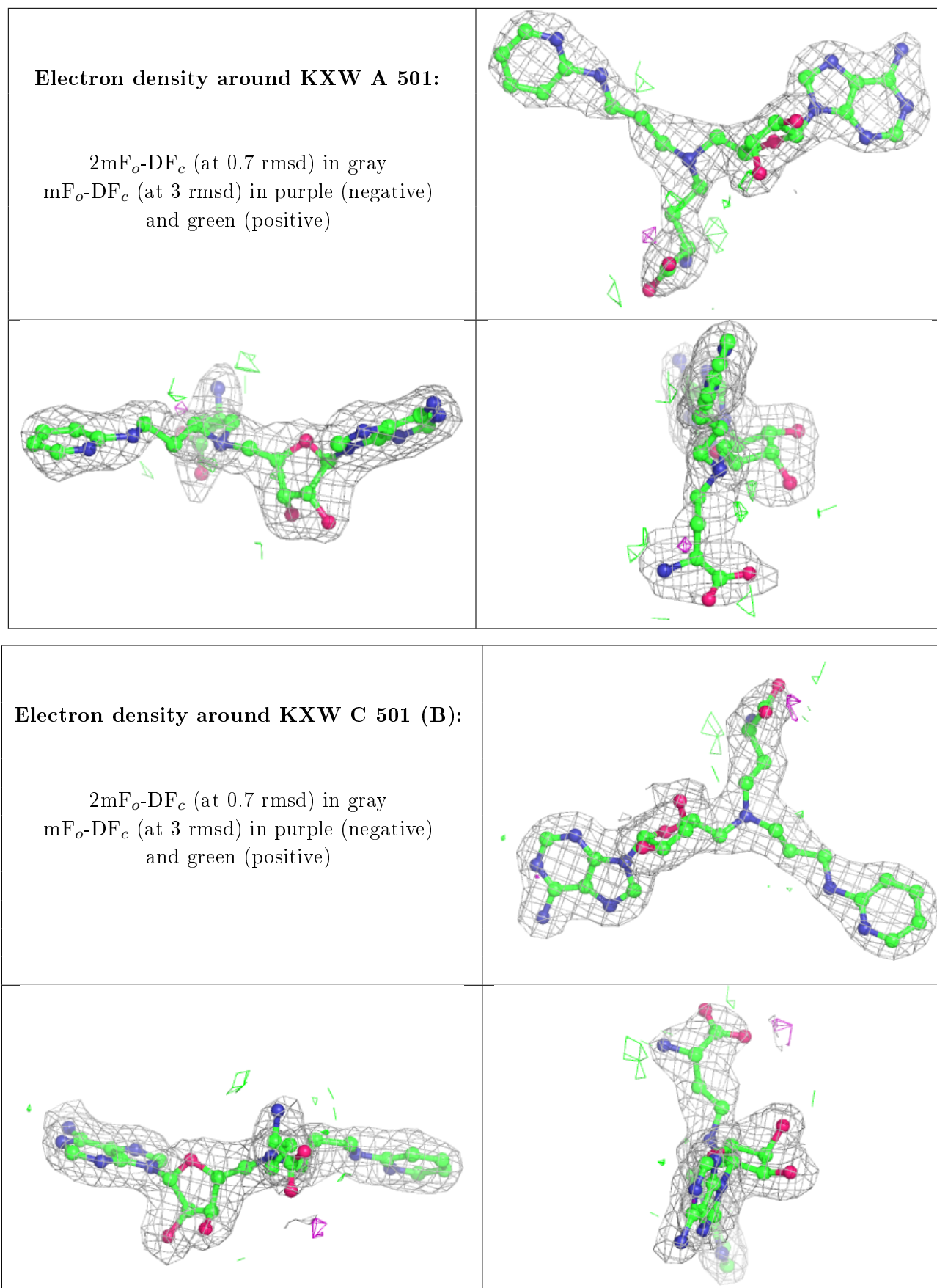
The following is a graphical depiction of the model fit to experimental electron density of all instances of the Ligand of Interest. In addition, ligands with molecular weight > 250 and outliers as shown on the geometry validation Tables will also be included. Each fit is shown from different orientation to approximate a three-dimensional view.



Electron density around KXW D 501 (A):

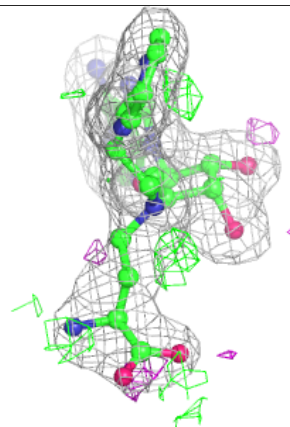
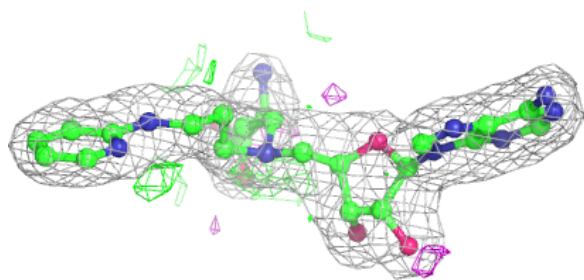
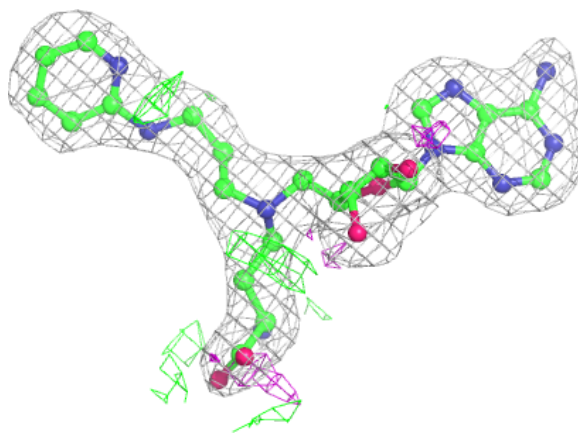
$2mF_o-DF_c$ (at 0.7 rmsd) in gray
 mF_o-DF_c (at 3 rmsd) in purple (negative)
and green (positive)



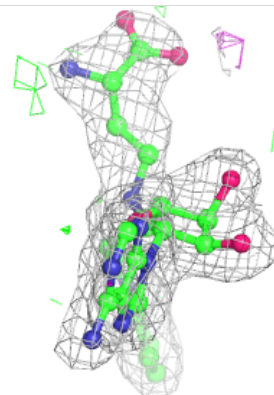
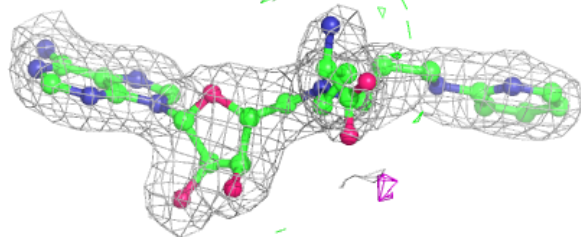
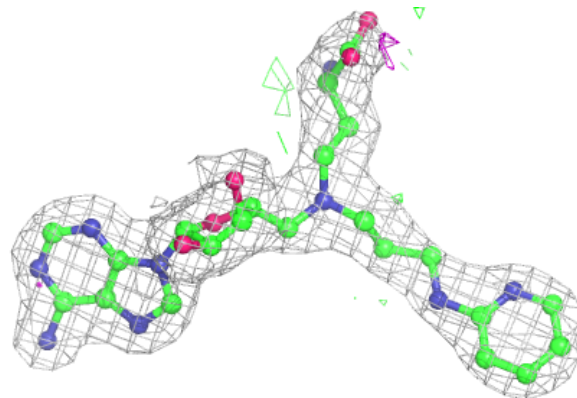


Electron density around KXW B 501:

$2mF_o-DF_c$ (at 0.7 rmsd) in gray
 mF_o-DF_c (at 3 rmsd) in purple (negative)
and green (positive)

**Electron density around KXW C 501 (A):**

$2mF_o-DF_c$ (at 0.7 rmsd) in gray
 mF_o-DF_c (at 3 rmsd) in purple (negative)
and green (positive)



6.5 Other polymers

There are no such residues in this entry.